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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,305	12/29/2000	Donald Brent Marshall	56130.000042	6732

7590 12/18/2003

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EXAMINER
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WOOD, WILLIAM H

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/750,305

Applicant(s)

MARSHALL ET AL.

Examiner

William H. Wood

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 13-24 and 28-47 is/are rejected.
- 7) ☒ Claim(s) 10-12 and 25-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Claims 1-47 are pending and have been examined.

#### *Drawings*

1. The drawings are objected to by Draft Person's review (see attached PTO-948).

The objection to the drawings will not be held in abeyance.

#### *Specification*

2. The disclosure is objected to because of the following informalities: related application information required in line 5, page 1 of the specification. Appropriate correction is required.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 31, 33, 35, 36, 38 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by **Wang**, "Telecommunications Network Management".

#### Claim 31

**Wang** disclosed a method of managing dependencies in a component-based system comprising:

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- ♦ performing at least one of a startup and an initialization of a resource up to intercomponent connection (*page 305, section "Procedural status attribute"*);
- ♦ determining if the resource has any dependency resources, the resource and its dependency resources forming a group of resources (*page 296, section "NE level provisioning", required physical and logical resources; and page 298, section "NE resource configuration maintenance"*);
- ♦ waiting for dependency resources to complete initialization (*page 305, section "Procedural status attribute"*);
- ♦ establishing connections to dependency resources (*page 294, section "Network connection management"*);
- ♦ proceeding with the at least one of startup and initialization (*page 305, section "Procedural status attribute"*); and
- ♦ establishing connections to the resource from the dependency resources (*page 294, "Network connection management"*).

Claim 33

**Wang** disclosed the method of claim 31 wherein determining if the resource has any dependency resource comprises determining dependency inter-component connection information from inter-component connection information received from an inter-component connection manager (*page 294, section "Network connection management"*; *page 296, section "NE level provisioning", required physical and logical*

*resources; and page 298, section "NE resource configuration maintenance"; components to be connected being dependent).*

Claim 35

**Wang** disclosed the method of claim 31 wherein performing startup of the dependency resources comprises requesting a resource pool manager to assign a dependency resource from the resource pool (*page 300, section "Switch-over"*).

Claims 36, 38 and 40

The system claims 36, 38 and 40 correspond to method claims 31, 33 and 35 respectively and are rejected in the same manner.

5. Claims 41-44 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by **Svedberg** et al. (USPN 5,408,218).

Claim 41

**Svedberg** disclosed a method of managing dependencies in a component-based system (*column 2, lines 30-40, lines 57-61; column 3, lines 59-63*) comprising:

- ♦ receiving indication of a state change for a first resource (*column 5, lines 36-43*);
- ♦ transmitting the indication of the state change of the first resource to a second resource dependent on the first resource (*column 5, lines 36-43*);

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- ♦ receiving indication of a state change of the second resource (*column 5, lines 36-43*).

**Claim 42**

**Svedberg** disclosed the method of claim 41 wherein receiving indication of the state change of the first resource comprises receiving indication of the state change from a managed object view of the first resource (*column 5, lines 36-52; Managed Objects, MO*), transmitting the indication of state change to the second resource comprises transmitting the indication to a managed object view of the second resource (*column 5, lines 36-52*) and receiving indication of the state change of the second resource comprises receiving the indication of state change from the managed object view of the second resource (*column 5, lines 36-52*).

**Claims 43-44 and 47**

The system claims 43 and 44 correspond to the method claims 41 and 42 respectively and are rejected in the same manner. The computer executable code of claim 47 corresponds to the method claim 41 and as such is rejected in the same manner.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-8, 13-14, 16, 18-23, 28-29, 32, 34, 37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang**, "Telecommunications Network Management" in view of **Curtis** (USPN 6,442,754).

Claim 1

**Wang** disclosed a method of dependency management in a component-based system comprising:

- ♦ defining a resource (*page 295 bottom, to 296; numerous resources defined*);
- ♦ recording an identifier for the resource (*page 295 bottom, bulleted point, to 296; identifier inherent in order to maintain states and status of network resources*);
- ♦ recording resource dependency relationships definitions for the resource (*page 296, section "NE level provisioning"; and page 298, section "NE resource configuration maintenance"; relationships maintained in tables, lists or other forms*);
- ♦ deploying the resource and the resource dependency relationships of the resource to a system (*page 296, section "NE level provisioning"*) including
  - ♦ verifying the existence of all dependency relationship resources of the resource on the system (*page 296, section "NE level provisioning"*),

**Wang** did not explicitly state transmitting a warning if any of the dependencies of the are unsatisfied, creating an abstract resource based on a dependency relationship

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definition of the abstract resource if the abstract resource is not found on the system.

**Curtis** demonstrated that it was known at the time of invention to utilize the concept of installing components on a system, which are depended upon by another program being installed (column 4, lines 26-38) and **Curtis** demonstrated making an indication of uninstalled (unsatisfied) dependency components (column 3, lines 64-67). It would have been obvious to one of ordinary skill in the art at the time of invention to implement **Wang's** deployment of software resources with installing (creating on the target system) dependency software components (abstract resources) when determined the needed (depended upon) components don't exist on the target system as suggested by **Curtis'** teaching. This implementation would have been obvious because one of ordinary skill in the art would be motivated to enable new or updated software (including resources) to function *correctly* on a target system with all and using all needed components.

**Wang** indicates dependency resources *should* be in place (page 296; section "NE level provisioning").

**Wang** did not explicitly state ending deployment if any dependency relationship is unsatisfied and deployment can not be completed without dependency. Official Notice is taken that it was known at the time of invention to not deploy a system, which cannot function correctly. It would have been obvious to one of ordinary skill in the art at the time of invention to implement **Wang's** resource management with stopping deployment when a resource needs dependencies which do not exist. This implementation would have been obvious because one of ordinary skill in the art would be motivated to not



deploy software/resources when they cannot function correctly as this would be an inefficient use of time. Furthermore, **Wang** indicated dependency resources *should* be in place for deployment (page 296, section "NE level provisioning").

Claim 3

**Wang** disclosed the method of claim 1 wherein recording an identifier to a resource comprises recording an identifier including resource identification, type identification (*page 299, section "Switch-back", primary and secondary designation*). **Wang** did not explicitly state version identification recording. However, Official Notice is taken that it was known at the time of invention to record version information pertaining to software. It would have been obvious to one of ordinary skill in the art at the time of invention to implement **Wang's** resources (software elements) system with recorded version information. This implementation would have been obvious because one of ordinary skill in the art would be motivated to provide for effective configuration management of resources by recording information which aids in upgrades and compatibility tests. Furthermore, **Wang** indicates information of updated resources is to be recorded (*page 297, section "Operation on resources" first bulleted item; page 298, section "NE resource configuration maintenance"*).

Claim 4

**Wang** disclosed the method of claim 3 wherein recording an identifier further comprises recording an identifier including scope of the resource (*page 299, section "Switch-back",*

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*primary and secondary; page 300, bulleted item "Usage"; and page 306, bullets "Off-line" and "Off duty").*

Claim 5

**Wang** disclosed the method of claim 1 wherein recording dependency information comprises recording associations between the resource identifier and resource identifiers for the dependency relationship resources (*page 298, section "NE resource configuration maintenance"; and page 306, bulleted item "Dependency").*

Claim 6

**Wang** did not explicitly state wherein recording dependency information comprises automatically recording dependency information. Official Notice is taken that it was known at the time of invention to automatically record information. It would have been obvious to one of ordinary skill in the art at the time of invention to implement **Wang's** resources system with automatic recording of dependency information. This implementation would have been obvious because one of ordinary skill in the art would be motivated to provide a system, which can operate quickly (whether a human operator is present or not) in order to ensure an accurate representation of the system state as suggested by **Wang** (*page 298, section "NE resource configuration management", constant attention*).

Claim 7

**Wang** disclosed the method of claim 1 wherein recording dependency information comprises manually recording dependency information through one of: software coding and configuration (*page 294-295, section "Network topology management", static definition requires human encoding or configuring (also encoding)*).

Claim 8

**Wang** disclosed the method of claim 1 wherein recording resource dependency definitions comprises defining dependencies for the resource (*as Wang demonstrates recording dependency definitions it must inherently comprise "defining" those dependencies*).

Claim 13

**Wang** disclosed the method of claim 1 wherein deploying the resource comprises using a deployment tool to deploy the resource wherein the deployment tool transmits information regarding dependency relationships to a resource management infrastructure (*page 296, section "NE level provisioning", the provisioning tool reports configuration information to management applications; page 298, section "NE resource configuration maintenance", indicates relationships (dependency) information included within configuration information*).

Claim 14

**Wang** disclosed the method of claim 1 wherein recording resource dependency relationships definitions for the resource comprises recording dependency relationships to at least one resource pool, the resource pool including a set of homogenous resources used interchangeably on a dynamic basis and allocated to dependent objects as needed (*page 300, section "Switch-over"*).

Claim 32

**Wang** did not explicitly state method of claim 31 further comprising:

- ♦ receiving indication from the resource that its internal resources have been successfully allocated and that the resource is waiting for connection;
- ♦ requesting connection information from an inter-component connection manager; and
- ♦ receiving inter-component connection information from the inter-component connection manager.

**Curtis** demonstrated that it was known at the time of invention to provide software components/resources, which have dependencies satisfied (column 4, lines 10-25).

Furthermore, **Wang** demonstrated network connection management (*page 294, section "Network connection management"*). It would have been obvious to one of ordinary skill in the art at the time of invention to implement the component dependencies of **Wang** with receiving an indication dependencies/internal resources are allocated and ready/waiting for connection (obvious because, **Curtis** indicates important for correct

operation of components); requesting connection information from connection manager (obvious because, **Wang** connects components when objects can function correctly with dependencies); and receiving connection information (obvious because, **Wang** needs information to perform connection) as found in **Wang** and **Curtis**' teaching.

Claim 34

**Wang** did not explicitly state the method of claim 31 wherein inter-component connection the resources comprises:

- ♦ placing the resource on a ready for inter-component connection list until the dependency resources have been started;
- ♦ receiving indication from the dependency resource that its internal resources have been successfully allocated and that the dependency resource is waiting for inter-component connection;
- ♦ requesting inter-component connection information from a inter-component connection manager; and
- ♦ traversing all entries of inter-component connection information.

Official Notice is taken that it was known at the time of invention to utilize lists or queue of waiting operations. It would have been obvious to one of ordinary skill in the art at the time of invention to implement the resource dependency connection system of **Wang** with list of waiting resources until they are ready. This implementation would have been obvious because one of ordinary skill in the art would be motivated to

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provide an organized system of managing resources as they are prepared for correctly functioning operation.

**Wang** did not explicitly state receiving indication from the dependency resource that its internal resources have been successfully allocated and that the dependency resource is waiting for inter-component connection; requesting inter-component connection information from a inter-component connection manager; and traversing all entries of the inter-component connection information. **Curtis** demonstrated that it was known at the time of invention to provide software components/resources, which have dependencies satisfied (column 4, lines 10-25). Furthermore, **Wang** demonstrated network connection management (page 294, section "Network connection management"). It would have been obvious to one of ordinary skill in the art at the time of invention to implement the component dependencies of **Wang** with receiving an indication dependencies/internal resources are allocated and ready/waiting for connection (obvious because, **Curtis** indicates important for correct operation of components); requesting connection information from connection manager (obvious because, **Wang** connects components when objects can function correctly with dependencies); and traversing all entries of the inter-component connection information (obvious because, **Wang** will connect all required connections) as found in **Wang** and **Curtis**' teaching.

Claims 16, 18-23, 28-29, 37 and 39

The system claims 16, 18-23, 28-29, 37 and 39 correspond to the method claims 1, 3-8, 13-14, 32 and 34 and as such are rejected in the same manner.

8. Claims 2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang**, "Telecommunications Network Management" in view of **Curtis** (USPN 6,442,754) and in further view of **Deo** et al. (USPN 6,594,355).

Claim 2

**Wang** disclosed the method of claim 1 wherein defining a resource comprises storing a definition of a resource in a tool to be accessed by a service creation environment ("SCE") (page 14-15, section "Service Creation Environment"). **Wang** did not explicitly state a deployment tool and a service logic execution environment ("SLEE"). **Deo** demonstrated that it was known at the time of invention to utilize SLEEs and deployment tools (column 15, lines 10-15, SLEE). It would have been obvious to one of ordinary skill in the art at the time of invention to implement the component resource system of **Wang** with a SLEE as found in **Deo's** teaching. This implementation would have been obvious because one of ordinary skill in the art would be motivated to provide a commonly known mechanism to deploy and manage components/resources.

Claim 17

The system claim 17 corresponds to the method claim 2 and as such is rejected in the same manner.

9. Claims 9 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang**, "Telecommunications Network Management" in view of **Curtis** (USPN 6,442,754) and in further view of **Svedberg** et al. (USPN 5,408,218).

Claim 9

**Wang** and **Curtis** did not explicitly state the method of claim 1 wherein recording resource dependency definitions comprises identifying type of dependency for each dependency resource. **Yue** demonstrated that it was known at the time of invention to record various types of resource dependency information (column 6, lines 54-58). It would have been obvious to one of ordinary skill in the art at the time of invention to implement resource management system of **Wang** and **Curtis** with recording resource type information as found in **Yue's** teaching. This implementation would have been obvious because one of ordinary skill in the art would be motivated to provide information to aid in network management including reducing bottlenecks (**Yue**: column 1, lines 6-15).



Claim 24

The system claim 24 corresponds to the method claim 9 and as such is rejected in the same manner.

10. Claims 15 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wang**, "Telecommunications Network Management" in view of **Curtis** (USPN 6,442,754) and in further view of **Svedberg** et al. (USPN 5,408,218).

Claim 15

**Wang** did not explicitly state the method of claim 1 further comprising creating a relationship between the resource and a resource pool manager if the resource will be used interchangeably with other resources in a resource pool, wherein the resource pool manager acts as a proxy for the pooled resources and handles dependency relationships on behalf of the pooled resources. **Svedberg** demonstrated that it was known at the time of invention to implement a pool of resource, wherein the pool acts as a proxy for the component resources handling relationships (column 12, lines 41-65; and column 5, lines 29-52; and column 6, lines 11-13). It would have been obvious to one of ordinary skill in the art at the time of invention to implement the resource system of **Wang** with a pool handling relationships as found in **Svedberg**'s teaching. This implementation would have been obvious because one of ordinary skill in the art would be motivated to provide common resource functionality (**Svedberg**: column 12, lines 41-52).

Claim 30

The system claim 30 corresponds to the method claim 15 and as such is rejected in the same manner.

***Allowable Subject Matter***

11. Claims 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Wood whose telephone number is (703)305-3305. The examiner can normally be reached 7:30am - 5:00pm Monday thru Thursday and 7:30am - 4:00pm every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703)305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-7239 for regular communications and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

William H. Wood  
December 11, 2003

*Kakali Chaki*

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